

ABSTRACT OF THE DISCLOSURE

5       An etchant for etching at least one of a titanium  
material and silicon oxide includes a mixed liquid of  
HCl,  $\text{NH}_4\text{F}$  and  $\text{H}_2\text{O}$ . When the etchant has a  $\text{NH}_4\text{F}/\text{HCl}$  molar  
ratio of less than one, only the titanium material is  
etched. When the etchant has a  $\text{NH}_4\text{F}/\text{HCl}$  molar ratio of  
more than one, only silicon oxide is etched. When the  
10       etchant has a  $\text{NH}_4\text{F}/\text{HCl}$  molar ratio of one, the titanium  
material and silicon oxide are etched at the same rate.